



**Department of Veterans Affairs
Office of Inspector General**

Office of Healthcare Inspections

Report No. 14-02396-212

Healthcare Inspection

Alleged Medication Cart Deficiencies and Unsafe Medication Administration Practices Atlanta VA Medical Center Decatur, Georgia

July 16, 2014

Washington, DC 20420

To Report Suspected Wrongdoing in VA Programs and Operations:

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Executive Summary

The VA Office of Inspector General Office of Healthcare Inspections conducted an inspection to evaluate allegations of medication cart deficiencies, unsafe medication administration practices, and insufficient leadership response to these problems at the Atlanta VA Medical Center (facility), Decatur, GA. The purpose of the review was to determine whether the allegations had merit.

During our unannounced site visit, we found that four out of five medication carts used in the Community Living Center for medication pass had to remain plugged in due to insufficient battery power, and some of the medication drawers on two of the carts did not lock. Of the 14 carts in service on the 7th and 10th medical floors, 5 had to remain plugged in due to short battery life and 6 had unsecurable medication drawers. The computers and scanners were functional on all 19 medication carts observed, but we noted that some computers were slow to operate or required multiple reboots.

We found that due to inadequate and/or non-functional medication carts, nurses have had to administer medications late. We observed this condition during our site visit, and 17 of the 19 nurses we interviewed reported that they have administered medications late because they did not have access to a working medication cart. In addition, nurses did not consistently document the reason when medications were administered late.

We did not substantiate that due to inadequate and/or non-functional medication carts nurses *had* to engage in unapproved workarounds; an approved alternate method was available for nursing staff to follow when administering medications. We substantiated that if nurses did not follow medication administration policies, they could be at risk professionally.

We did not substantiate that leadership had not responded to complaints about the issue. Facility leaders had responded, but according to facility leaders and other managers with knowledge of the issues, purchasing and contracting processes to procure new equipment and assure ongoing maintenance and repair of existing equipment has been slow.

We recommended that the Facility Director ensure that nurses have access to an adequate number of fully functioning medication carts to administer medications safely and on time, and that nurses accurately document the reasons for late medication administration. We also recommended that the Veterans Integrated Service Network Director enhance processes to improve purchasing and contracting efficiency for patient care equipment and items.

Comments

The Veterans Integrated Service Network and Facility Directors concurred with our recommendations and provided an acceptable action plan. (See Appendixes A and B,

pages 9–13 for the Directors' comments.) We will follow up on the planned actions until they are completed.

A handwritten signature in black ink, reading "John D. Daigh, Jr., M.D." in a cursive script.

JOHN D. DAIGH, JR., M.D.
Assistant Inspector General for
Healthcare Inspections

Purpose

The VA Office of Inspector General (OIG) Office of Healthcare Inspections conducted an inspection to evaluate allegations of medication cart deficiencies, unsafe medication administration practices, and insufficient leadership response to these problems at the Atlanta VA Medical Center (facility), Decatur, GA. The purpose of the review was to determine whether the allegations had merit.

Background

The facility is a 405-bed teaching hospital that provides a broad range of emergency, medical, surgical, long-term care, and mental health services. The facility has 273 hospital beds, 120 community living center (CLC) beds, and 12 psychiatric residential rehabilitation beds. The facility is part of Veterans Integrated Service Network (VISN) 7 and serves a veteran population of 87,416 unique patients.

Nursing staff administer medications to hospitalized patients via the bar code medication administration (BCMA) system. In general, each medication comes in an individual barcoded packet which pharmacy staff pre-load into individual patient cassettes. The cassettes, with the patients' names on front, are loaded into a medication cart. Medication carts are equipped with computers, hand-held scanners (to scan medication and wristband barcodes), and locking medication drawers that are all powered by the cart's battery. Medication carts should have sufficient battery life such that the cart can be moved from patient room to patient room during medication pass.

When nurses administer medications, the general process involves:

1. Confirming the patient's identity.
2. Scanning the patient's wristband, which contains a unique bar code, to access the patient's medication profile and information on the computer screen.
3. Scanning the bar code on each medication packet. BCMA automatically records the medication as "given." Unless the nurse manually changes "given" to another option (see below), administration time is considered to be the time the patient's wristband and medications are scanned.

If the nurse is unable to administer the medications, the nurse can choose one of several options from a menu, including medication "missing," "refused," or "held." The process of scanning automatically documents the date and time the medications were administered.¹

Allegations

On January 28, 2014, the OIG received an e-mail from a complainant alleging that:

¹ Bar Code Medication Administration (BCMA) GUI User Manual, Version 3.0, Revised December 2013.

1. Medication carts on CLC-3 do not have working computers, adequate space for medications, or sufficient battery life.
2. As a result of inadequate and/or non-functional medication carts:
 - a. Medications are routinely administered up to 3 hours late.
 - b. Nursing staff have had to engage in “workarounds”² to administer medications. One such workaround involved nurses printing out duplicate patient wristbands and scanning a wristband and all of that patient’s medications at once. Reportedly, nurses did this so that they would not have to keep walking back and forth between the patients’ rooms and the medication cart (which had to remain plugged in). When the wristbands and medications were all scanned at once within the 2-hour window, it would appear (via the BCMA system) as if the medications were administered on time, even if they were not.
 - c. Nursing staff have been advised by management to enter “given” in the comments section, rather than the actual reason for the delay, when medications are administered late.
 - d. Nursing staff who have had to engage in this type of workaround are at risk professionally.
3. Leadership has not responded to complaints about the issue.

Scope and Methodology

We conducted an unannounced site visit April 7, 2014. Although the complaint related specifically to CLC-3, we expanded our review to include two medical floors. During this visit, we completed an inventory of medication carts on CLC-3 and on the 7th and 10th medical floors, and we interviewed nurses administering medications. We also interviewed the facility director.

We reviewed relevant Veterans Health Administration (VHA) and facility policies, BCMA medication administration and scanning failure reports, work orders, and purchase orders. The facility had recently undergone unannounced Joint Commission (JC) and Long Term Care Institute (LTCI) inspections, so we reviewed those reports and the facility’s action plans related to this matter.

We interviewed the complainant; the CLC-3, 7th floor, and 10th floor nurse managers; the Chief Nurse Executive, BCMA Coordinator, Nursing Automated Data Processing Application Coordinator, and Chief of Pharmacy Service; a representative of Logistics Service; the Deputy VISN Chief Information Officer; VISN contracting staff; and others with knowledge about this issue.

² A workaround is a plan or method to circumvent a problem without eliminating it.

We conducted the inspection in accordance with *Quality Standards for Inspection and Evaluation* published by the Council of the Inspectors General on Integrity and Efficiency.

Inspection Results

Issue 1: Adequacy and Functionality of Medication Carts

We partially substantiated the allegation that medication carts on CLC-3 did not have working computers, adequate secured space for medications, or sufficient battery life. The complainant reported that, at times, nurses had to push two carts simultaneously because one cart may have had a functional computer but no space for medications, while the other cart may have had adequate space but could not be unplugged long enough to complete medication pass due to short battery life.

During our site visit, we observed eight medication carts on CLC-3; three of the carts were not in use that day.³ Of the five medication carts being used for medication pass, four had to remain plugged in due to insufficient battery power. In addition, some of the medication drawers on two of the carts did not lock.

We found similar conditions on the 7th and 10th medical floors. Of the 14 carts in service during our observation, 5 had to remain plugged in due to short battery life and 6 had unsecurable medication drawers.

The computers and scanners were functional on all 19 medication carts observed, but we noted that some computers were slow to operate or required multiple reboots. All of the carts had enough storage drawers to accommodate patient medications, but we noted that in three cases, topical medications and infusion bags were left on top of the medication carts rather than placed in the storage bins below. Six carts (two on CLC-3 and four on the 7th floor) were unsecured and unattended while nurses delivered medications. We did not observe nurses using two carts to administer medications; although, several nurses we interviewed told us that they had done this in the past.

Issue 2: Medication Administration Practices

Late Medications

We substantiated the allegation that the inadequate number and/or non-functional status of medication carts resulted in delays in medication administration. VHA employs a 2-hour “window” that allows nurses to administer medications from 1 hour before to 1 hour after the ordered time.^{4,5} Thus, a medication that is ordered to be administered at 9:00 a.m. may be administered any time between 8:00 a.m. and 10:00 a.m. During our site visit, we observed medications being administered late on all of the floors. In addition to improperly functioning medication carts, other factors contributed to delays, including nurses having to retrieve missing medications from the Pharmacy or Pyxis®⁶

³ One cart was broken and two carts were not in use.

⁴ Some medications, like insulin and pain medications, are time-sensitive and the “window” does not apply.

⁵ Atlanta VA Medical Center Memorandum 118-9, *Administration of Medication through Bar Code Medication Administration*, January 30, 2014.

⁶ Pyxis® is an automated medication dispensing system that supports decentralized medication management.

machines and other patient care issues requiring nurses' immediate attention. Seventeen of the 19 nurses we interviewed reported that they have delivered medications late because they did not have access to a working medication cart.

Workarounds

We did not substantiate the allegation that due to inadequate and/or non-functional medication carts, nurses *had* to engage in workarounds.

Facility policy defines an alternate procedure to follow in cases when equipment is not functioning properly. The alternate procedure is to use printed medication orders to confirm the patient is given the correct medications. Completed orders are then scanned into the electronic health record. While the alternate procedure may still result in late medication administration, it assures that the right patient is receiving the right medicine. The unapproved workaround cited in the allegations did not follow safe medication administration policies and practices.

We observed that nurses followed approved protocols for medication administration. We found one duplicate wristband in a medication cart, but the nurse denied knowing anything about it, saying it may have been left from the previous night's medication pass. None of the nurses had patients' barcode data affixed to the back of identification badges as described by the complainant.

Because nursing staff knew they were being observed, it is unlikely they would have engaged in an unapproved workaround during our site visit. For this reason, we evaluated BCMA medication administration reports⁷ for March 2–3, 2014, for CLC-3 patients. We found no evidence of "batch" scanning (scanning multiple wristbands and medications at once for delivery later) on those dates; although, we did note that some morning medications had been administered as late as 1:30 p.m. with no accompanying explanation as required by policy.

None of the 19 nurses we interviewed reported having used unapproved workarounds, such as extra barcoded wristbands, to administer medications, nor did they report that they were instructed by managers to document "given" in the BCMA system in advance of administering medications. Several did report using approved alternate medication administration procedures when functional medication carts were not available.

Professional Concerns

While we found no evidence that nurses used unapproved workarounds, we substantiated that nursing staff could be at risk professionally if they did not follow medication administration policies. Reportedly, several nurses were counseled when nursing leadership discovered that they had not complied with medication administration policies and practices. In the absence of other performance concerns, it is unlikely that one administrative action such as this would place a nurse at professional risk.

⁷ This review included only the morning medication pass.

However, the repeated failure to follow policy could result in progressive discipline, up to and including removal.

One of the 19 nurses expressed concern about being forced to use “bad systems” and the potential impact on her nursing license. We did not hear similar concerns from the other nurses we interviewed.

Issue 3: Leadership Response and Actions

While we confirmed ongoing problems with medication carts, we did not substantiate the allegation that leadership had not responded to complaints about the issue. Actions were being taken, but according to facility leaders and other managers with knowledge of the matter, VA purchasing and contracting processes to procure new equipment and assure ongoing maintenance and repair of existing equipment have been slow.

Further, several program offices across the VISN had responsibility for some aspects of medication cart purchase and repair. Representatives from the program offices explained the problems and barriers from their perspectives but had less understanding of the requirements and barriers unique to the other offices. All four interviewees reported that one or more of the other program offices were not following certain procedures, which impacted their ability to do their work related to the medication cart purchase and repair. One person we interviewed described it as a “relay race,” saying that the offices were dependent on each other to achieve the goal. This interviewee thought that communication, coordination, and mutual understanding were slowly improving.

Status – Medication Carts

New cart purchases

In July 2013, the BCMA coordinator submitted a quote to the facility’s Logistics division to purchase six medication carts. The custom-order carts were received on January 14, 2014. On February 13, the facility re-ordered 26 carts that were originally requested in 2012, but the order was delayed due to lost paperwork. The carts were received in two deliveries in early April 2014. In an effort to replace medication carts facility-wide, 77 carts are now on order with an expected delivery date in December 2014.

Old cart maintenance and repair

Medication carts require routine maintenance and periodic repair. On September 30, 2012, the maintenance contract with the vendor expired, leaving a lapse of several months until contracting staff could negotiate an extension. The problem recurred on September 30, 2013, allegedly due to delayed and incomplete paperwork. In late February 2014, the VISN paid for repairs to 22 medication carts, and the vendor completed those repairs the following month. The vendor returned in April to repair 10 additional carts. VISN 7 contracting staff is in the process of renegotiating the maintenance and repair contract.

Conclusions

We partially substantiated that medication carts on CLC-3 did not have working computers, adequate secured space for medications, or sufficient battery life. During our site visit, we observed that four of five medication carts being used for medication pass on CLC-3 had to remain plugged in due to insufficient battery life, and some of the medication drawers on two of the carts did not lock. Of the 14 carts in service on the 7th and 10th medical floors, 5 had to remain plugged in due to short battery life and 6 had unsecurable medication drawers. The computers and scanners were functional on all 19 medication carts observed, but we noted that some computers were slow to operate or required multiple reboots.

We substantiated that due to inadequate and/or non-functional medication carts, nurses have had to administer medications late. We observed this condition during our unannounced site visit and 17 of the 19 nurses we interviewed reported that they have delivered medications late because they did not have access to a working medication cart.

We did not substantiate that due to inadequate and/or non-functional medication carts, nurses *had* to engage in unapproved workarounds as the facility had a BCMA contingency plan. During our observation, it appeared that nurses were following protocols for medication administration. Because it was unlikely that nursing staff would have engaged in an unapproved workaround while being observed, we evaluated BCMA medication administration reports⁸ for March 2–3, 2014, for CLC-3 patients. We found no evidence of “batch” scanning (scanning all the medications at once for administration later) as described by the complainant. None of the 19 nurses we interviewed reported having used unapproved workarounds to administer medications. We did note during record review that the reason for late medication administration was not always documented.

We substantiated that nursing staff could be at risk professionally if they did not follow medication administration policies. We were told that a few nurses had been counseled about improper medication administration practices.

While we confirmed ongoing problems with medication carts, we did not substantiate that leadership had not responded to complaints about the issue. Actions were being taken, but according to facility leaders and other knowledgeable managers, VA purchasing and contracting processes to procure new equipment and ensure ongoing maintenance and repair of existing equipment has been slow.

⁸ This review included only the morning medication pass.

Recommendations

1. We recommended that the Facility Director ensure that an adequate number of fully functioning medication carts are available for nurses to administer medications safely and on time.
2. We recommended that the Facility Director ensure that nurses document the reasons for late medication administration.
3. We recommended that the Veterans Integrated Service Network Director enhance processes to improve purchasing and contracting efficiency for patient care equipment and items.

VISN Director Comments

**Department of
Veterans Affairs**

Memorandum

Date: June 11, 2014

From: Director, VA Southeast Network (10N7)

Subj: Draft Report—Healthcare Inspection—Alleged Medication Cart Deficiencies and Unsafe Medication Administration Practices, Atlanta VA Medical Center, Decatur, Georgia

To: Director, Atlanta Office of Healthcare Inspections (54AT)
Director, Management Review Service (VHA 10AR MRS OIG Hotline)

1. I have reviewed the combined responses from VISN 7 program staff and the Atlanta medical center related to the subject OIG Draft Report. I concur with the stated action plans, as such VISN 7 staff will provide continued support and oversight to ensure that all actions are completed as indicated.
2. If you have further questions please contact Robin Hindsman, QMO 678-924-5723.

(original signed by:)

Charles E. Sepich, FACHE

Comments to OIG's Report

The following VISN Director's comments are submitted in response to the recommendations in the OIG report:

OIG Recommendations

Recommendation 3. We recommended that the Veterans Integrated Service Network Director enhance processes to improve purchasing and contracting efficiency for patient care equipment and items.

Concur

VISN response: The issue of Adequacy and Functionality of Medication Carts at the Atlanta VA had risen to the VISN level and was being investigated as early as mid-February. The VISN Chief Nursing Officer was working with the VISN Chief Logistics Officer, VISN Contracting, VISN OIT and facility BCMA coordinators and Nurse Leaders to understand the underlying issues, both technical (hardware, keyboards, IT components), functional (age of carts, various cart type and components) and volume (is the number adequate for the workload of the unit). As a result of this work, VISN 7 has produced the following outcomes, which will address Recommendation 3:

Target Date: October 10, 2014

Completed an Emergency BCMA Cart needs assessment, which determined the need to purchase 114 BCMA Carts in FY '14, to replace aged and incompetent BCMA carts at each facility. It should be noted that Atlanta completed an emergency purchase for 77 BCMA Carts simultaneously, to address their individual needs. The VISN purchase of 114 BCMA Carts has a projected award date to the Vendor of 6/6/2014 and delivery is expected to be complete within 120 days of award. The Atlanta purchase of 77 BCMA Carts was awarded on 4/22/2014 and delivery is expected to be complete within 120 days of award.

Target Date: September 30, 2014

BCMA Refresh: VISN Chief Logistics Officer (CLO), working with VISN Contracting Officer and VISN Chief Information Officer (CIO) developed a plan to perform a complete refresh of BCMA carts VISN wide beginning in FY15. The work to identify the current number of BCMA carts in play, determine current and future real need of BCMA carts, establish a refresh cycle and determine needed funding was being actively pursued also in early 2014 (Q2). This plan will be implemented effective October 2014 (FY15). VISN7 currently has a total of 672 BCMA Carts, 625 of those cart are more than three years old. Based upon equipment condition and projected three year life expectancy, VISN 7 will refresh approximately 225 of its BCMA Carts each fiscal year. VISN 7 will have a Refresh Plan developed and ready for implementation.

Facility Director Comments

Department of
Veterans Affairs

Memorandum

Date: June 6, 2014

From: Director, Atlanta VA Medical Center (508/00)

Subj: **Draft Report**—Healthcare Inspection—Alleged Medication Cart Deficiencies and Unsafe Medication Administration Practices, Atlanta VA Medical Center, Decatur, GA

To: Director, VA Southeast Network (10N7)

1. I concur with the findings and recommendations of the Office of Inspector General Medication Cart Deficiencies and Unsafe Medication Administration Practices Review at the Atlanta VA Medical Center, Decatur, GA.
2. Thank you for the opportunity to review the draft report. Attached are the facility actions taken as a result of these findings.

(original signed by:)

Leslie Wiggins
Director, Atlanta VA Medical Center (508/00)

Comments to OIG's Report

The following Facility Director's comments are submitted in response to the recommendations in the OIG report:

OIG Recommendations

Recommendation 1. We recommended that the Facility Director ensure that an adequate number of fully functioning medication carts are available for nurses to administer medications safely and on time.

Concur

Target date for completion: September 30, 2014

Facility response: A VISN wide support algorithm has been implemented delineating roles and responsibilities for the support of the BCMA carts to include defined performance standards, turn-around times and escalation provisions. All BCMA cart faults are reported to the 24 hour IT help desk by end users to generate a help desk ticket for tracking. If not immediately resolved by the help desk, the ticket will be tracked to completion by OIT.

An acquisition contract for 77 new BCMA carts has been awarded for a complete facility cart refresh with an estimated delivery before the end of FY2014. New carts have a 3 year warranty, an evaluation for funding appropriations will be submitted for repair or replacement.

A minimum number of carts have been defined to maintain patient care and efficiency for medication administration. Floors have been supplied with the optimal number of carts in addition to a back up cart for immediate deployment should a cart fail. OIT will also maintain a stock of loaner carts for deployment to the patient care areas in the event a cart has to be removed from service for repairs.

In addition, an Atlanta VA Bar Code Medication Administration Management SharePoint has been created to maintain an inventory of all carts to include a "Dashboard" view of each cart's status, repair plan, incident tracking and related quality reports.

Recommendation 2. We recommended that the Facility Director ensure that nurses document the reasons for late medication administration.

Concur

Target date for completion: September 30, 2014

Facility response: The Atlanta VA Medical Center is currently revising the Medication Administration policy to specify documentation of late medications. Staff will be educated on policy revisions. In addition, all staff will receive annual training on

documentation of late medication administration. The BCMA Coordinator will monitor compliance through BCMA Reports.

OIG Contact and Staff Acknowledgments

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